Netwatch

BY JIM CARROLL

YOUR GUIDE TO BUSINESS & ACCOUNTING ON THE INTERNET

The doctor is in around the clock

Here's a word you need to think about: bioconnectivity. I've been using it for more than a decade to describe a trend involving the emergence of intelligent, connected medical monitoring, diagnostic and healthcare delivery devices. This trend is one of those sweeping transformations underway that cause us to sit back 20 years later and say, "Wow! Where did that come from?"

It's important because we are living in a country facing significant challenges in healthcare. There's a looming shortage of skilled workers, dramatic rates of discovery of medical knowledge, increasing demands and other forms of big change. In the midst of these challenges, the folks who design technology for the future have realized that healthcare truly is the next big thing.

For example, in a reorganization last year, computer-chip giant Intel indicated its digital health group would become one of five business units reporting directly to the CEO. As noted by Eric Dishman, director of health research and innovation at Intel, in a 2005 *San Francisco Chronicle* article, "We have the potential to aim our innovation engine at the age wave challenge and change the way we do healthcare from a crisis-driven, assembly-line hospital approach to a personal-driven approach, with people taking care of themselves with help from family, friends and technologies."

How might this work? Consider the situation of typical Alzheimer's patients: with a longer life expectancy, their network of caregivers could find themselves taking care of them for 40 to 50 years, instead of the five or 10 years today. It's a huge and complicated burden; that's why Intel has been exploring such things as programmable coffee mugs, shoes, plates and other everyday items seeking to turn them into smart devices, with the goal of helping Alzheimer's patients remember how to interact with life.

Elsewhere, there's the emergence of remote medical diagnostic equipment. The thinking is straightforward: with the aging baby-boom generation, there will not be enough hospital beds to go around. Hence, home care will become a key part of the healthcare system. The natural step is to use the connectivity that has become a part of our daily lives and link it to a remote diagnostic machine to permit monitoring of a patient from afar.

Blue Cross in Massachusetts has been using such technology to monitor several hundred congestive heart-failure patients. The thinking is that these patients are not in a state that demands constant, critical hospital care but do need to be carefully watched. Bioconnectivity provides the perfect solution: their condition can be remotely and continuously monitored and they can be taken into a critical-care facility if necessary.

It was estimated by *Digital Connect* magazine that US revenue from digital home-health services could quadruple to exceed US$2.1 billion by 2010. The two fastest-growing areas would be wellness monitoring services and e-health services, with each achieving more than a 50% compound annual growth rate.

As the wave of bioconnectivity emerges, the concept of a hospital will change. Today, it is a physical place, a building we can visit; tomorrow, it will be defined by the reach of its virtual network of bioconnectivity devices. It will come to be thought of as an extended community network by which a good portion of its services are provided. That's a massive, transforming change, one that should be well understood.

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